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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/746,209	12/21/2000	Thorsten R. Boger	SP00-370	1314

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EXAMINER

TRAN, HIEN THI

ART UNIT	PAPER NUMBER
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1764

DATE MAILED: 12/12/2002

6

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/746,209

Applicant(s)

BOGER, THORSTEN R.

Examiner

Hien Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) 1-21, 27 and 28 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 22-26 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☒ Claim(s) 1-28 are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 December 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4, 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-7, drawn to a liquid processing apparatus, classified in class 210, subclass -.
 - II. Claims 8-21, 27-28, drawn to a chemical reactor, classified in class 422, subclass 211.
 - III. Claims 22-26, drawn to a method of producing a product, classified in class 423, subclass 210+.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and III; and II and III are related as process and apparatus for its practice.

The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case, the apparatus as claimed can be used to practice another and materially different process, such as the process of heat exchanging.

3. Inventions I and II are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as

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claimed, such as the upper and lower collection chambers. The subcombination has separate utility such as mixing liquids.

4. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, recognized divergent subject matter and the search required for Group I is not required for Groups II and III, restriction for examination purposes as indicated is proper.

5. During a telephone conversation with Mr. Kees van der Sterre on 12/09/02 a provisional election was made with the right of traverse to prosecute the invention of Group III, claims 22-26. Affirmation of this election must be made by applicant in replying to this Office action.

Claims 1-21, and 27-28 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Drawings

6. The drawings are objected to because in Fig. 1, reference numeral "18" (channel) is pointed to the basket container 14 and it is unclear as to what the flow direction "a" means (note both arrows "a" at the top and bottom). Correction is required. on

7. The drawings have not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the drawings to comply with CFR 1.84(p)(5), e.g. they should include the reference sign(s) mentioned in the specification and vice versa.

Specification

8. The disclosure is objected to because of the following informalities:

On page 6, line 28 and 30 --or monolithic substrate-- should be inserted after "monolith" for consistency and clarity (note lines 24-25).

On page 7, line 11 --or cover portion-- should be inserted before "15" (note page 5, line 23).

Appropriate correction is required.

9. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 112

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

11. Claims 22-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 22, lines 5, 7 --reactor-- should be inserted after "tank" for consistency and clarity (see claims 25-26 likewise); in line 7 it is unclear as to what is intended by "internally activating a flow".

In claim 23 it is unclear as to how this step is related to the internally activating step set forth in claim 22.

In claim 24, line 3 it is unclear as to what is intended by and what defines the "designated portions".

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In claim 25, it is unclear as to how this step is related to the step of fixedly positioning ... set forth in claim 22. See claim 26 likewise.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

14. The art area applicable to the instant invention is that of monolith reactor.

One of ordinary skill in this art is considered to have at least a B.S. degree, with additional education in the field and at least 5 years practical experience working in the art; is aware of the state of the art as shown by the references of record, to include those cited by applicants and the examiner (*ESSO Research & Engineering V Kahn & Co*, 183 USPQ 582 1974) and who is presumed to know something about the art apart from what references alone teach (*In re Bode*, 193 USPQ 12, (16) CCPA 1977); and who is motivated by economics to depart from the prior art to reduce costs consistent with the desired product characteristics. *In re*

Clinton 188 USPQ 365, 367 (CCPA 1976) and *In re Thompson* 192 USPQ 275, 277 (CCPA 1976).

15. Claims 22-24, 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohta (6,086,832) in view of Lange et al (6,087,455).

With respect to claim 22, Ohta discloses a method comprising: a feeding a reactant into a tank reactor (col. 4, lines 43-44, 51-53); fixedly positioning a substrate having catalytic surfaces within said tank reactor so as to leave room therein for at least one adjacent bypass passageway (col. 4, line 6, col. 6, lines 48-55); internally activating a flow of said reactant within said tank reactor (col. 6, lines 32-36); circulating said activated flow of reactant through said fixedly positioned catalyzed substrate and through said bypass passageway (see flow direction arrows in Fig. 1); and removing a product from said tank reactor (col. 4, lines 51-53, col. 6, lines 37-40).

The method of Ohta is substantially the same as that of the instant claims, but fails to disclose whether the substrate may be in form of a monolithic honeycomb.

However, Lange et al discloses a method for producing a product in which a catalytic honeycomb substrate is used.

It would have been an obvious matter of design choice to one having ordinary skill in the art to select an appropriate shape for the substrate, such as the honeycomb substrate as taught by Lange et al in the method of Ohta since the shape of the catalysts is not considered to confer patentability to the claim and since such a modification would have involved a mere change in the shape of a component. A change in shape is generally recognized as being within the level of ordinary skill in the art, absence showing any unexpected results. *In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966).

With respect to claim 23, Ohta discloses an agitator 26.

With respect to claim 24, referred to the feeding tube 11 and bubbles in the reactor 20 in Fig. 1 of Ohta.

With respect to claim 26, the catalyst 23 is centrally positioned within the reactor 20.

16. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ohta (6,086,832) in view of Lange et al (6,087,455) as applied to claims 22-24, 26 above, and further in view of Blanchet et al (5,804,147).

The modified method of Ohta is substantially the same as that of the instant claims, but fails to disclose whether the specific structure of the substrate and the bypass passageway.

However, Blanchet et al discloses a method for producing a product in which a catalytic honeycomb substrate is positioned adjacent the inner sidewall portion of the container and forming adjacent bypass passageway centrally of the honeycomb substrate.

It would have been obvious to one having ordinary skill in the art to construct the catalytic honeycomb substrate and the bypass passageway as taught by Blanchet et al in the modified method of Ohta, since such a modification would have involved a mere change in the shape of a component. A change in shape is generally recognized as being within the level of ordinary skill in the art, absence showing any unexpected results. *In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966).

Conclusion

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hien Tran whose telephone number is 308-4253. The examiner can normally be reached on Tuesday-Friday from 7:30AM-6:00PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on 308-6824. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 308-0661.

HT
December 10, 2002

Hien Tran
Hien Tran
Primary Examiner
Art Unit 1764